

The Relationship Between GEAR UP Participation and High School Freshman Year Performance Indicators

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Submitted to the graduate degree program in Educational Leadership and Policy Studies and
the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for
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Date Defended: April 23, 2018

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Date Approved: April 23, 2018

ABSTRACT

The purpose of this study was to determine whether a relationship exists between participation in the GEAR UP program and academic success in the freshman year of high school in a program house in Topeka, Kansas. GEAR UP is a federally funded pre-college grant program charged with preparing cohort groups of at-risk students for the successful pursuit of college. Utilizing the Freshman Year Performance Indicators, developed by the University of Chicago Consortium on Chicago School Research (freshman year GPA, number of credits earned and number of class period absences), this study examined the relationship between GEAR UP participation (by number of hours) and these Freshman Year Performance Indicators. The freshman year in high school is a critical time in the academic development of at-risk students, as 9th grade academic performance can predict the likelihood of on-time high school graduation. There exists a void in the literature regarding what freshman year interventions are related to the academic success of program participants. This study sought to provide guidance in this area.

The participants in this study were 200 9th graders at Highland Park High School in Topeka, Kansas. Using 9th grade participation data and student GPA, credits earned and attendance information, correlation and multiple one-way ANOVAs were run to determine which categories of activities were most significantly related to academic achievement, and to determine relationships based upon race and gender. A t-test was run to determine demographic differences among participants. Finally, multiple regression models were run to determine what level of GEAR UP participation had the most impact on the three outcome variables (GPA, credits earned, and attendance), what categories of activities had the most impact, and how student level demographics impacted participation.

Results from this quantitative study showed students who participated in Highland Park GEAR UP were primarily Hispanic and female, with an average GPA of 2.15, had earned an average of six credits and had missed an average of thirty-eight class periods during the 9th grade year. There was a statistically significant difference in gender and GPA, with females having higher GPAs than males. Participation hours in GEAR up activities showed statistically significant differences by race/ethnicity, with White students having the most participation hours. Additionally, a significant correlation was found to exist between Total Hours of Participation and Counseling Services participation and all three of the Freshman Year Performance Indicators (GPA, number of credits earned and number of class period absences), as well as Summer Experience participation with credits earned and GPA. Finally, linear regression determined significant relationships existed between Counseling Services participation and all three of the Freshman Year Performance Indicators. The results from this study coincide with recent research indicating primary success of pre-college programs found in the areas of grit, motivation and personal growth, all of which were components of the Highland Park GEAR UP Counseling Services slate of activities.

ACKNOWLEDGEMENTS

Yes, I did that! My decision to pursue a doctoral degree was not entered into lightly. I have been working on this for almost six years, and am so thankful for the support and encouragement of the people in my life.

First and foremost, I would like to thank my husband, Robert, for your on-going support during this process, and for reminding me who I am when I was feeling doubtful or overwhelmed. I truly couldn't have embarked upon this journey without your love and support, and for that I am eternally grateful. I would also like to thank my amazing children, Ally, Angel and Arianna, for being so patient and understanding when my time was constrained. This journey was truly a family affair, and I appreciate all of you for that.

I also want to thank my parents, Rafael & Pamela Sanchez, for always believing in me. From the time I was a little girl, you always made me believe I could do anything I wanted to do and you always had my back, even when you didn't agree with my decisions. I owe so much of who I am to both of you!

To my friend and colleague, Dr. Meghan Ecker-Lyster, thank you so much for giving of your time to help me understand my statistical analyses and for always being willing to answer questions, offer guidance and support. I am forever indebted to you!

To my advisor, Dr. Susan Twombly, and my committee members, Dr. Lisa Wolf-Wendel and Dr. Eugene Parker, thank you for your guidance, persistence and commitment through this dissertation process. Your efforts are greatly appreciated!

Finally, to all of my family, friends and colleagues who have offered a kind word, an encouraging message, or a "you got this, Tonya," I am so very grateful to you for your positive vibes!

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Introduction

This study is an examination of the relationship between GEAR UP participation and the following high school Freshman Year Performance Indicators: Grade Point Average (GPA), number of credits earned, and percentage of class period absences. GEAR UP is a federal pre- college grant program charged with preparing cohort groups of students, considered “at-risk” based upon attendance in high-poverty schools, for the successful pursuit of college. Beginning in the sixth grade and continuing through high school graduation and into the first year of postsecondary, GEAR UP provides various intensive services and activities to promote high school graduation and college-going among the student cohorts, many of whom will be first- generation college students (a student for whom neither parent holds a Bachelor’s degree). As students progress through middle and high school, so too does GEAR UP, as the program follows the students, resulting in seven years of longitudinal data on each participant. The program is graduated, typically beginning with the basics of college exposure and becoming increasingly intense as the students progress into high school.

Freshman year in high school is a crucial time in the academic development of at-risk students. According to the Consortium on Chicago School Research (Allensworth & Easton, 2007), certain Freshman Year Performance Indicators (9th grade GPA, number of credits earned, and percentage of class period absences) can accurately predict on-track/on-time high school graduation with 80% reliability. Since freshman year is such a pivotal point in academic development, and academic activities that take place during freshman year can predict the likelihood of on time graduation, it is crucial that GEAR UP programming during freshman year be effective and meaningful.

GEAR UP’s ultimate goal is to get students prepared for success in college, as the

foundational belief behind the program is that higher education can change lives and improve communities. GEAR UP students, based upon school attendance area and free and reduced lunch status, are all considered to be of low socioeconomic status, and as such, are likely to face multiple challenges toward degree attainment. A recent report from the National Center for Education Statistics (Kena, et al., 2015) indicates students of low socioeconomic status (low SES) represent only 14% of Bachelor's degree holders in the United States. The Office of Post Secondary Education defines "low SES" as individuals whose family taxable income for the preceding year did not exceed 150% of the poverty level amount (OPE, 2017).

Since the current economic structure in the United States dictates the necessity of a postsecondary credential, ensuring students' timely high school graduation and subsequent postsecondary enrollment is of vital importance. However, the odds are often stacked against low SES, first generation college students achieving this goal. In response to this on-going access crisis for this particular demographic, college access programs such as GEAR UP seek to mitigate the financial and social barriers many of these students face when attempting to access postsecondary education. The first step in that process is making sure students graduate high school on track and on time, and for that reason, an examination of GEAR UP's impact on Freshman Year Performance Indicators (FYPI) can provide valuable programmatic insights.

The Context

The purpose of this study is to determine the relationship between GEAR UP participation and the following Freshman Year Performance Indicators (FYPI): 9th grade GPA, number of credits earned, and number of class periods missed. Utilizing the federal pre-college intervention program GEAR UP as the basis of the study, this researcher seeks to

contribute to the body of literature on pre-college programs, and discover the effect of Freshman Year interventions on the academic status of GEAR UP students.

GEAR UP (*Gaining Early Awareness and Readiness for Undergraduate Programs*) is a discretionary grant program designed to increase the number of low-income high school and middle school students who are prepared to enter and succeed in postsecondary education (USDE, 2015). By providing seven-year grants to states and partnerships, GEAR UP provides services at high-poverty middle and high schools, serving an entire cohort of students beginning no later than the seventh grade, through high school and into the first year of college. By law, GEAR UP programs are required to promote college going and provide services to students and parents. These services include providing information about college entry requirements, costs, financial assistance, and areas of study. GEAR UP is also charged with providing academic and social support, financial literacy programming, support for rigorous coursework, and teacher professional development opportunities (USDE, 2015). While all services are available to all students within a GEAR UP school, participation levels vary. In-class academic day programming provides the best participation due to the captive nature of class-based activities. Participation in after school activities, however, is strictly voluntary.

The particular GEAR UP upon which this study is built is administered in Topeka Public Schools in Topeka, KS. The area in which the GEAR UP school, Highland Park High School, is located is the high-poverty neighborhood known as Oakland. In the Oakland community, 54.6% of residents have an education level of high school or less, and only 6.4% of the population holds a Bachelor's Degree, compared to 18.7% for the entire city of Topeka. The median income of Oakland residents is \$37,534, compared to \$45,054 for the entire city,

and the average home value is \$67,531, compared to \$131,288 for the entire city of Topeka (City-data.com, 2016).

This GEAR UP program was originally funded in 2014, so the students who make up this GEAR UP cohort have been receiving GEAR UP services for three years. The Highland Park GEAR UP program operates both during the academic day as well as after school. Through partnership with a local university Department of Education, Highland Park GEAR UP provides pre-service educators to serve as academic day tutors, working directly with students in the classrooms. This school-day programming is an important delivery method, as interventions that occur during the academic day provide a captive audience, and as such, reach the most students. In addition to Academic Day interventions, Highland Park GEAR UP also provides a number of extracurricular interventions as well, including a tutoring/enrichment academy, college exploration activities, campus visit opportunities, leadership development activities and workshops, and summer academies.

While several studies show that GEAR UP works (Bausmith & France, 2012; Cabrera, et al., 2006; Knaggs, et al., 2015), there exists a void in the literature regarding what freshman year interventions elicit the most significant results when it comes to the academic success of program participants. GEAR UP provides various programming opportunities aimed at aiding students in their preparation for college. Since the level of participation in many of these activities is at the will of the participants, some students participate in more activities than do others.

This study examines whether level of participation (as measured by number of hours of GEAR UP participation) is related to academic success, which for the purposes of this study, will be measured using the following Freshman Year Performance Indicators (FYPI)

developed by the Consortium on Chicago School Research (Allensworth & Easton, 2007): 9th grade Grade Point Average (GPA), number of credits earned during 9th grade, and percentage of class period absences during 9th grade. The Consortium on Chicago School Research study has been cited by the National High School Center as an accepted and reliable predictor of on-track/on-time high school graduation, with 80% reliability (Allensworth & Easton, 2007; Heppen & Therriault, 2008). This study also examines whether particular categories of activities relate to these Freshman Year Performance Indicators more than others.

Importance of the Study

This study is important because federal pre-college programs, in our current political climate, are under attack and are, therefore, being called upon to demonstrate effectiveness at the risk of losing funding. GEAR UP programs throughout the country are being called upon to prove that they work, and if programs fail in that regard, hundreds of thousands of students will lose what many believe to be valuable services for the most vulnerable students. This study seeks to examine if level of participation and type of services offered are related to academic success for GEAR UP students, the results of which can have ramifications on the continued existence of GEAR UP programs nationally.

Research Questions

1. Who are the students who participate in Highland Park GEAR UP? What is their level of participation and their Freshman Year Performance Indicators?
2. Are there demographic differences in participation of Highland Park GEAR UP participants?
3. What GEAR UP activities are significantly related to academic achievement, as measured by the Freshman Year Performance Indicators?
4. What is the relationship between student-level demographics and level and type of

GEAR UP participation predict student achievement, as measured by the Freshman Year Performance Indicators?

Chapter 2

Literature Review

This literature review will address the social and educational challenges faced by students served in the GEAR UP Program, as well as the relevance of pre-college programs as related to educational achievement for the target population. I will start out by discussing the impact of first generation status on degree attainment. I will then discuss the history and significance of college access programs to the aspirational goals of these students. Next, I will address how pre- college programs can impact high school graduation and college degree attainment rates of the target populations, and specifically how the pre-college program GEAR UP serves the target population, and its perceived level of impact on academic success. Finally, I will examine the use of the Freshman Year Performance Indicators as reliable predictors of high school graduation, and how participation in GEAR UP is related to these performance indicators in the first year of high school.

The Impact of Low Socioeconomic Status & First Generation Status

Most of the participants upon whom this study is focused are potential first generation college students. First generation college students are defined as students for whom neither parent has earned a college credential. Since GEAR UP is a pre-college program, the ultimate goal is to increase high school graduation and college enrollment rates among the student cohort. As many of these students will be the first in their family to attend college, their first generation status presupposes specific deficits when it comes to degree attainment. In a report published in the *Education Statistics Quarterly*, Warburton, Bugarin & Nunez (2001) indicate a significant relationship between parental level of education and student degree attainment. This report found first generation status to have a negative effect on a student's academic

preparation and ability to persist in college. Specifically, first generation college students are less likely to earn a degree from the first college they attended and are more likely to leave college prior to degree attainment than students whose parents completed college (Warburton, et al., 2001).

Echoing the findings of the Warburton report, Engle, Bermeo & O'Brien (2006) in their report commissioned by the Pell Institute for the Study of Opportunity in Higher Education, as well as Engle (2007), indicate first generation college students are less likely to enroll in college the year after high school graduation, are more likely to attend two-year institutions, and are underrepresented at four-year institutions (34%). Additionally, these students are twice as likely to leave college prior to earning a degree, less likely to earn a degree within eight years (26%), more likely to have dependent children and come from low SES families. First generation students are also more likely to delay college entry, and more likely to require remedial coursework (p. 14). Such reports bear out the fact that GEAR UP students, by virtue of parental educational attainment, start out life at a deficit when compared to their peers whose parents have earned college degrees.

In addition to first generation status, GEAR UP students, by virtue of school attendance area, are considered to be of low socioeconomic status (low SES). The low SES label brings with it crippling implications. The Hamilton Project (Greenstone, et al., 2013) published a list of economic facts about social mobility and education, indicating children of high SES families are disproportionately more likely to stay wealthy and children of low SES families are more likely to remain poor. This report also suggests high SES status brings to bear a myriad of educational advantages for children. By age three, children born to professional parents have larger vocabularies than their working-class (50% larger) or their low SES (100%

larger) peers (Greenstone et al., 2013). Such advantages transfer to the school environment, as the achievement gap continues to grow, with high SES students pulling away from their low SES counterparts at an alarming rate (2013). These facts translate into significant educational attainment among the most affluent, and only meager growth among the poor.

Several studies have been conducted to determine the impact of low SES and first generation status on college aspirations. One such study, conducted by Strayhorn (2009), found negative impacts of low SES and first generation status on educational aspirations. In fact, Strayhorn found SES to be significantly related to the educational aspirations of low SES students. This study found SES to be the “most influential factor affecting college aspirations” (p.722). The researcher went on to say this study’s findings, namely that SES influences aspiration, might explain access disparities in college (p. 723).

Engle and Tinto (2008) found similar results in assessing the likelihood of low SES first generation students obtaining a college degree. This particular study examined those students who actually attended college, and found those students to be less successful at persisting in college (across all institution types), four times more likely to leave college after the first year, less likely to have earned a degree after six years (11%), and less likely to enroll in a four-year institution (25%) (pp. 11-13). This study also found this particular demographic to be less academically prepared, less likely to receive financial assistance from parents, less likely to be engaged, both socially and academically, on campus, and more likely to enroll in costly for-profit institutions (pp. 20-24).

According to Titus (2006), socioeconomic status is positively correlated with college completion. Students from high SES families are more likely to graduate college than students from low SES families. Additionally, college-bound students generally come from schools that

have rigorous academic curricula. Students from low SES families typically attend high poverty schools, which tend to have few of the aforementioned characteristics, so they are less likely to graduate high school and persist in postsecondary institutions (p. 393).

It is clear that first generation and low SES status have a pervasive negative influence on students' abilities to graduate high school, and enter into and persist in college. For students who attend high-poverty schools and whose parents do not have a college credential, graduating high school and enrolling in college can be a complex endeavor. College access programs, such as GEAR UP, seek to mitigate these deficits through programming and support structures for these vulnerable students. The following section will outline the history and significance of college access programs in the US.

The Origins of Federal College Access Programs

In order to understand the role programs such as GEAR UP play in the world of college access, it is important to first understand the history of college access programs in the United States. As a response to the War on Poverty, the United States government, through the Economic Opportunity Act of 1964, created college access programs, commonly known as the TRIO programs, in an effort to increase the number of underrepresented students on college campuses. TRIO consists of eight programs: Upward Bound (1964), Talent Search (1965), Student Support Services (1968), Educational Opportunity Center (1972), Veteran's Upward Bound (1972), the Training Programs for Federal TRIO Programs Staff (1976), Ronald E. McNair Post Baccalaureate Achievement Program (1986), and Upward Bound Math & Science (1990).

In 1999, the federal government added the GEAR UP Program to its cadre of college access programs, which are charged with the task of providing services to low-income, first

generation students, and students with disabilities, in an effort to prepare these underrepresented groups for the successful pursuit of postsecondary education. As a collective, the TRIO and GEAR UP programs seek to identify students, both youth and adults, at various stages in their educational development and provide targeted interventions that are directed toward college enrollment and graduation (US Department of Education, 2015).

The Significance of Pre-College Intervention Programs (TRIO)

Since their inception, researchers have sought to gauge the impact of the TRIO programs on the educational aspirations and attainment of program participants. Cahalan (2009) studied Upward Bound and indicates Upward Bound students are more likely than their non-participant counterparts to graduate high school and go on to college. This study also maintains the likelihood of Upward Bound students going to college immediately after graduation increases based upon the number of years a student has participated in the program.

In another study utilizing data from the National Education Longitudinal Study (NELS), Walsh (2011) found participation in Upward Bound and Talent Search programs significantly benefits low SES African American and Hispanic students, increasing college attendance rates for these two groups to a level equivalent to average SES White students (2011). Herndon and Hirt (2004) and Winkle-Wagner (2008) also mention participation in TRIO programs as a factor in first generation student persistence in college. TRIO programs are cited as being helpful in the academic and social preparation for college, which can prove invaluable for first generation college-bound students (Winkle-Wagner, 2008).

In addressing the question of how pre-college intervention programs can help promote college enrollment among the target demographic, Perna (2000) outlines six areas in which

pre-college programs are successful in that regard: financial literacy, college-related experiences, academic enrichment and remediation, parent programming, and college application process awareness. Each of these topics is briefly addressed below.

Financial literacy. According to Engle, et al., (2006), students in pre-college intervention programs are more likely to apply for financial aid, receive larger financial aid packages than their peers and tend to receive more gift-aid than do their non-participant peers. Similarly, Venezia and Jaeger (2013) found students who were involved in pre-college programs indicated they felt more knowledgeable about the financial aid application process, and were more likely to apply for financial aid, as compared with non-participants.

Bettinger, et al., (2009) specifically found the process of simplifying and assisting low SES students with the Free Application for Federal Student Aid (FAFSA) application increases college enrollment by eight percentage points. Most pre-college programs, such as GEAR UP, are mandated to provide such services for all participants, which increases the likelihood of college enrollment. FAFSA awareness and completion is part of the cadre of services that are being assessed in this study.

College related experiences. Engle, et al. (2006), refer to student exposure to college through pre-college programs (p. 40), indicating campus visits, academic programming and summer programs were helpful in terms of making students feel more prepared to persist in college. GEAR UP provides all of these services for cohort students. Students reported early exposure to college life through campus visits, academic programming and summer residential programs proves vital in helping them feel prepared (p. 31). Additionally, the structured nature of the pre-college program helped students prepare for the structure and discipline needed to be successful in college (p. 32-33).

Bryan, Griffin and Henry (2013) also tout the significance of pre-college programs in creating college-related experiences for low SES students. These researchers maintain early intervention and pre-college programs can help strengthen school curriculum for this demographic, as these students often attend schools that are lacking in rigorous curricular offerings (p.11). Several researchers assert the same, citing the importance of pre-college programs' ability to offer college-related experiences, such as campus visits and college fairs, for low-income students (Cooper, 2008; Gandara, 2002; Perna, 2002). Dyce, Albold & Long (2013) stress the role of college access programs in serving as a bridge for students in course selection and college admissions requirements. GEAR UP provides such services to students and families, and these services are being assessed as part of this study.

Academic enrichment and remediation. According to Warburton, et al. (2001), high school academic preparation of first generation students impacts their persistence through to college graduation. Academic rigor in high school is “strongly associated with college grade point average (GPA), remedial coursework and rate of persistence and attainment” (p.1). The effect of first generation status is remarkable, with these students being less likely to have taken upper-level math, less likely to take and/or perform well on college-entrance exams, and less likely to have taken AP classes (Warburton, 2001). Pre-college programs seek to remediate these deficits by providing programming, support and experiences to which many in the target demographic might not otherwise have been privy.

Harper and Griffin (2010) studied low SES African American males who not only persisted in college, but also graduated from the most highly selective colleges and universities in the country. These participants all reported participation in pre-college programs, indicating the educational environment and pre-college programs to which they

were exposed prepared them to succeed in the most highly selective institutions in the country (Harper & Griffin, 2010). GEAR UP provides academic enrichment and remediation services that will be assessed as part of this study.

Parent programming. Parents play a vital role in the academic success of their students. Dyce et al. (2013) maintain parental expectations increase when their children are enrolled in pre-college programs. Parental involvement is key in building the trust necessary to help students successfully transition to college (Engle et al. 2006), and students are more likely to enroll in and persist in college when parents have high educational expectations.

In order for parents to prepare their children for college, they must have an understanding of the processes required. According to King, (2000) pre-college programs teach parents how to save for college, recognize the importance of education, maintain open communication with the school, serve as home tutors, encourage mastery of essential skills, and encourage positive attitudes toward school work. GEAR UP's parent programming component serves as outreach and a school-to-home bridge that is vital for student success.

College admissions process. For first generation students, the college admissions process can seem daunting. Parents who have not attended college often lack the knowledge of how to navigate the admissions process successfully. Couple this with the fact that at most high schools that serve low SES and first generation students, counselors are at a premium (on average a 1:491 ratio in 2016) and are often unavailable to provide the necessary assistance in this regard (Perna, 2015). Pre-college programs often step in to fill that void, and Perna maintains counseling as a particularly beneficial component of pre-college programs (2015). Low-income schools are often ill equipped to provide the assistance needed to aid low SES first generation students in the college admissions process. Perna

(2015) asserts this is one of the areas where college access programs provide vital assistance.

Similarly, The Pell Institute (2009) found students participating in pre-college programs were more likely to apply for student financial aid, enroll in college, and attain a bachelor's degree than their non-participant counterparts. Le, Mariano & Faxon-Mills (2015) in their study of a particular pre-college program in St. Louis, indicate a relationship between pre-college program participation and greater levels of college enrollment and persistence.

While the areas outlined above are demonstrative of the impact of pre-college programs, there remain mixed opinions on the overall impact of these programs to the educational achievement of program participants. Several studies (Coleman, 2011; Gullat & Jan, 2003; Haskins & Rouse, 2013) indicate only modest success for pre-college programs in terms of improving the academic achievement of the target demographic. Dyce, et al. (2013) and Bloom (2008) offer an alternative assessment, however, removing the onus of academic achievement from the college access programs and placing it squarely on the shoulders of the educational systems found within low income communities. Dyce, et al. (2013) maintain most college access programs are unable to impact classroom instruction found within their target schools. Similarly, Bloom (2008) indicates the social inequities, lack of funding and lack of qualified teachers found in high poverty schools/districts present an untenable situation for college access programs, like GEAR UP, which cannot easily overcome inadequate preparation by the schools/districts in question.

The GEAR UP Program

As previously mentioned, GEAR UP is a federally funded grant program charged with preparing cohort groups of at-risk students for the successful pursuit of college, starting in 6th grade and continuing through to graduation and into the first year of college. In order to accomplish this objective, GEAR UP programs provide services at three levels: academics,

college knowledge, and parent programming. These three broad categories encompass a wide variety of activities in service to the stated objective.

In order to provide all of the above-referenced services, GEAR UP programs rely on funding from the US Department of Education (USDE), which awards two types of GEAR UP grants: State grants and Partnership grants. State grants are administered through state agencies and are often focused on priority students, such as homeless students or students who are in foster care. State grantees are required to provide college knowledge and preparation programming; however, a large portion of state grant funding must be used for scholarships. Partnership grants require services to begin no later than seventh grade and to continue through high school graduation and into college. Additionally, partnership grants require at least 50% of the students at participating schools to be classified as low-income, based upon the free and reduced lunch eligibility percentages (USDE, 2015). For this study, the focus is on partnership grants.

While all GEAR UP partnership grants are funded at different levels, there are specific funding guidelines that must be followed. First, partnership grantees are required to find business and community partners who are willing to provide a dollar-for-dollar match in the form of in-kind services. These services can include use of office or meeting space, providing guest speakers or mentors, or providing direct services to students at discounted rates. Second, partnership grantees are limited to an \$800 per student, per year allocation. Once a grant application is approved and the allocation is set, the funding can never increase, regardless of whether more students enter the program. However, allocations can be decreased if the number of students decreases or if allocated funds are not being utilized properly (USDE, 2015).

According to Muraskin, in her National Evaluation of GEAR UP (2003), most GEAR

UP programs provide supplemental services to schools. These supplemental services include tutoring, college-knowledge activities (campus visits, college fairs, etc.), summer programming, and teacher professional development. There is also a parent-programming piece built into all GEAR UP partnership grants. This parent component is focused on getting parents involved in the process of preparing students for college. This push often takes on varied forms of parental outreach, with the goal of getting as many parents to participate as possible.

In attempting to affect all aspects of the cohort students' educational lives, GEAR UP also provides services to cohort teachers and to the school as a whole. GEAR UP programs partner with individual teachers to provide professional development opportunities meant to increase the effectiveness of the teacher, as well as to influence teachers to engage students with rigorous academic curricula. GEAR UP also provides teachers with materials they can use in classrooms to increase academic rigor. At the school level, GEAR UP can be very influential. Although most GEAR UP services are aimed directly at students, some GEAR UP projects work with schools to implement curricular reform and to support or augment school instructional programs (Muraskin, 2003).

Researchers seek to study pre-college programs like GEAR UP in order to ascertain their impact on participating students. In 2005, the state of New Jersey evaluated New Jersey GEAR UP (Heisel, 2005), and found the program to be “an outstanding example of student focused academic development” (p. 2). In attempting to discover whether college preparatory programs impact post-secondary enrollment and persistence among these students, Knaggs, et al. (2015) sought to determine the impact of GEAR UP. The researchers found significant differences in college attendance and persistence (Year 4 retention and semesters completed)

between GEAR UP and non-GEAR UP groups, with the GEAR UP group having higher college attendance and persistence rates than the non-GEAR UP group. Data collected from the National Student Clearinghouse (NSC) indicated significantly more students in the GEAR UP group attended four-year institutions than in the non-GEAR UP group (Knaggs, et al., 2015). Additionally, results indicated GEAR UP students were significantly more likely to attend a four-year college or university, and to persist through to graduation.

Qualitative data revealed participants found GEAR UP to be important in their lives, with students attributing much of their personal growth in high school to participation in the GEAR UP program (Knaggs, et al., 2015). Finally, GEAR UP students were able to set realistic goals and develop a plan to achieve those goals. The results of this study indicate pre-college programs can have significant impact on the college-going decisions and ultimate degree attainment of program participants.

Another study on the effectiveness of GEAR UP sought to determine the impact of GEAR UP on college readiness outcomes (Bausmith & France, 2012). The researchers found statistically significant increases in PSAT/NMSQT and AP participation among GEAR UP cohorts. Another significant finding is that average performance on both assessments did not decrease. This finding is significant because the increase in the number of atypical participants often leads to a decrease in the performance on these indicators. This expected decrease did not occur, which suggests that these GEAR UP students were better prepared to perform well on these indicators than were their non-GEAR UP counterparts. These results lend credence to the belief that GEAR UP can have positive impacts on student achievement.

Villar (2014) sought to discover the post-secondary impact of GEAR UP participation by studying Latino community college students who were formerly GEAR UP students. The

researcher found GEAR UP to have a significant positive impact on financial aid awareness, resilience, grit and perseverance. Additionally, tutoring, mentoring, and college field trips helped study participants develop a sense of belonging and influenced their college attendance decisions. While GEAR UP participation did not influence academic achievement, for reasons outlined previously, GEAR UP participation had the most significant impact on non-cognitive characteristics, academic engagement, and personal responsibility.

GEAR UP's impact on specific subject-area achievement has also been studied. Cabrera, et al. (2006) studied California GEAR UP programs to discover the impact on reading and math standardized test scores among middle school students in the program. Utilizing data from California's state testing database along with the state's Academic Performance Index database, the findings of this particular study indicate GEAR UP participation positively and significantly influenced middle school math and reading scores. The researchers maintain these study results demonstrate evidence that GEAR UP intervention programs may be more effective than traditional educational settings in preparing low-income students for the academic challenges of college.

It is evident that GEAR UP makes significant strides in preparing students for the pursuit of college. While the jury is still out on how much impact a program like GEAR UP has on academic achievement for low-income students in high poverty schools, there is clear evidence to establish a significant positive correlation between GEAR UP participation and college aspirations, development of non-cognitive skills and persistence. This study will assess one particular GEAR UP program further by examining what, if any, relationship exists between GEAR UP participation and academic achievement, as determined by the Freshman Year Performance Indicators.

The Freshman Year Performance Indicators

This study seeks to determine whether a relationship exists between GEAR UP participation and certain high school Freshman Year Performance Indicators (FYPI) that are believed to predict, with 80% reliability, whether a student will graduate from high school on time. Since one of GEAR UP's objectives is to graduate its cohort on track and on time, these Freshman Year Performance Indicators, namely freshman year grade point average, number of credits earned and percentage of class period absences, are vital to the work GEAR UP does in schools. If participation in GEAR UP (certain GEAR UP activities, or for a prescribed number of hours) is shown to positively impact these performance indicators, it is distinctly possible to establish a set of "best practices" to inform GEAR UP pedagogy and thereby increase college access among the target demographic.

The University of Chicago Consortium on Chicago School Research (CCSR) developed an "on-track" indicator to determine, based on 9th grade performance, the likelihood of a student graduating high school in four years (Allensworth & Easton, 2005). This initial on-track indicator consisted of two criteria: 1) students accumulating all of the required credits needed to be promoted to 10th grade; and 2) a student having no more than one semester "F" in a core subject (math, English, social studies or science) (p.3). The researchers maintain the on-track indicator is highly predictive of whether students eventually graduate, with 80% reliability, regardless of elementary achievement, race/ethnicity, gender, socioeconomic status and age at high school entry (p. 9).

In 2007, the CCSR refined their "freshman on track" indicator to include freshman year grade point average (GPA), the number of credits earned freshman year, whether a student is "on-track" or "off track" and percentage of class period absences during the freshman year (Allensworth & Easton, 2007). These updated indicators provide a more

complete view of the student during that crucial 9th grade year, and can likely provide more intervention options for schools (p. 6). Since the researchers assert course grades (GPA) and failure rates (number of credits earned) provide more specific information than the “on/off track” indicator (p. 6), the “on/off track” indicator has been left out of this study.

The addition of absences as an indicator is significant in this regard as absence information is available early in the year, and as such, can result in interventions relatively early on in the school year (p. 6). Also, though it is obvious that excessive absences can impact on- track and on-time graduation, the researchers found even moderate levels of absences are cause for alarm. Since attendance is the most essential factor in passing a class (one can’t pass a class if one fails to attend), this indicator becomes vital. The researchers indicate course attendance during the freshman year is eight times more predictive of course failure than any eighth grade achievement indicators (p. 16), and just one week of absence is associated with an increased likelihood of failure, irrespective of incoming achievement levels (p. 17).

In refining the Freshman Year Performance Indicators, the researchers chose to include all course failures, as opposed to just core course failures, during the freshman year. Students’ 9th grade GPA and number of credits earned explain 39% of graduation rate variability, and can be used to predict 80% of graduates, irrespective of prior academic achievement and family background (p. 8). Additionally, course failures and GPA are related, as a higher GPA increases the likelihood of graduation. For students who fail the same number of classes, the students with higher grades in the courses they did pass tend to graduate at higher rates (p.10). For this reason, these two predictors have been included in the Freshman Year Performance Indicators. The National High School Center (Heppen & Therriault, 2008) echo the findings of The Chicago Consortium and have used the Freshman Year Performance Indicators to develop

an Early Warning System that can be used to identify and intervene on behalf of students in danger of dropping out.

Other researchers have maintained the validity of these Freshman Year Performance Indicators (GPA, credits earned and attendance). Geiser and Santelices (2007), assert the validity of high school GPA as a predictor of college academic success. In their study of 4-year college outcomes, the researchers found high school GPA to consistently be the strongest predictor of four- year college success across all disciplines (p. 24). Additionally, the researchers maintain high school grades provide a more equitable and meaningful assessment of achievement and remain the best indicator in determining college success (p. 27).

GPA not only predicts future academic performance, but also can be used to identify students who are at risk for academic difficulty (ACT, 2008), and Hodara and Lewis (2017) found high school grade point average to be a better predictor of college course grades than SAT, ACT, or ACCUPLACER scores. Neild & Balfanz (2006) indicate the number of absences during the first thirty days of high school as the biggest risk factor for failing 9th grade, and that failing 9th grade is one of the most significant predictors of dropping out. Similarly, Balfanz et al. (2015), in their study of the effects of 9th grade suspensions, maintain the chance of graduating decreases from 75% to 50%, with even one out-of-school suspension, and the chances of enrolling in postsecondary education decreases from 58% to 39% or less (p. 22).

The impact of the 9th grade year on four-year high school graduation is clear. Since GEAR UP is charged with ensuring on-track and on-time high school graduation and subsequent college enrollment for the student cohort, thoughtful and significant freshman year interventions and experiences are vital to fulfilling the goals and objectives of the GEAR UP program. Knowing how specific GEAR UP interventions and level of participation influence

the Freshman Year Performance Indicators can provide invaluable guidance to GEAR UP practitioners in their attempts to best serve their student cohorts.

Summary

GEAR UP programs serve low-SES potential first generation college students, with the goal of preparing these students for high school graduation and the successful pursuit of college. Unfortunately, societal factors put these students at a disadvantage when it comes to accessing higher education. First generation status comes with its own set of roadblocks for this demographic, so the federal government established college access programs, like GEAR UP, to mitigate the effects of poverty and address underrepresentation at the university level.

Despite confounding research as to the level or significance of the impact, many studies have found pre-college access programs beneficial, at various levels, in the lives of the participants. Although there have been multiple studies conducted on the GEAR UP program as a whole, there exists a void in the literature in terms of specific interventions associated with academic gains or if a relationship exists between total hours of GEAR UP participation and academic success for participants. The purpose of this study is to determine if such relationships exist. In order to accomplish this, the researcher is using the Freshman Year Performance Indicators developed by the Chicago Consortium on Chicago School Research (2007). The freshman year in high school is vital, as freshman year academic performance can predict four-year high school graduation (a GEAR UP goal), with 80% reliability. It is this study's goal to determine if GEAR UP participation is associated with freshman year academic success, which influences four-year high school graduation, which in turn increases the likelihood of college enrollment and eventual degree attainment.

Chapter 3

Methodology

The primary goal of this study is to determine how GEAR UP participation is related to Freshman Year Performance Indicators, as developed by the Chicago Consortium on Chicago School Research (2007):

- Freshman Year Grade Point Average (GPA)
- Number of credits earned during freshman year
- Percentage of class period absences during freshman year

These Freshman Year Performance Indicators are accepted and reliable predictors for high school graduation (Allensworth & Easton, 2007; Heppen & Therriault, 2008;). This study also seeks to determine what categories of activities are most significantly related to academic achievement, and how student-level demographics impact GEAR UP participation.

Background Information

This study was conducted utilizing students from Highland Park High School in Topeka, Kansas. Highland Park High School is a low SES high school, with 100% of its students qualifying for Free and Reduced Lunch status. In 2014, when the current 9th grade cohort were in 7th grade, the University of Kansas was awarded a Federal GEAR UP grant to be administered at Highland Park High School's feeder middle schools, Chase and Eisenhower Middle Schools. Therefore, the majority of the participants have been members of GEAR UP since they were in 7th grade. GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) is a discretionary grant program "designed to increase the number of low-income students who are prepared to enter and succeed in postsecondary

education (USDE, 2015).” Highland Park GEAR UP seeks to fulfill this goal by providing interventions in the areas of Academic Enrichment and Remediation, College Knowledge, Parent Interventions, and Teacher Professional Development.

Since GEAR UP is a cohort-based grant program, and as such, moves up with the students as they move up, the entire current 9th grade class at Highland Park High School, irrespective of the middle school attended, are automatically considered members of GEAR UP. Some GEAR UP programming is administered during the academic day, but many activities occur after school and on the weekends. For this reason, the level of participation will vary from student to student, as extracurricular participation is voluntary.

The target high school has a graduation rate of 67%, which GEAR UP attempts to mitigate through programming and interventions. Students must earn 6.5 credits during their freshman year in order to be classified as academic sophomores during year two of high school. Students being “on track and on time” for graduation is one of the GEAR UP grant objectives, as many students fail multiple classes their 9th grade year, thereby placing on-time graduation in jeopardy. At the target high school, 20% of freshmen, on average, do not earn the requisite 6.5 credits to be classified as academic sophomores the following year.

Additionally, the daily attendance rate at the target school (85%) is lower than both the district (92.7%) and the state (95%) averages. This study attempts to discover if the level of GEAR UP participation is related to these performance indicators for the freshman class. Since GEAR UP is new to Topeka Public Schools, it remains to be seen if the program impacts overall graduation rates. Highland Park GEAR UP, however, has become part of the fabric of the school, receiving full support and encouragement from the school and district administration. Highland Park GEAR UP is invited to collaborate and participate in planning sessions at the school and district level, in an effort to fully integrate Highland Park GEAR UP into the school

community.

Of the 280 9th grade students at the start of the 2016-2017 school year, eighty students were removed from the sample. Some left the target high school before the end of the academic year (n = 56) and several students were classified as academic freshmen, but were actually 9th grade repeaters (n = 24), and were, therefore, not members of the target cohort. The final sample consisted of 200 students who are members of the class of 2020, participated in GEAR UP activities, and completed their freshman year at Highland Park High School.

Ethics

This study was approved by the University of Kansas IRB on March 14, 2017, and was approved for consent waiver. The researcher serves as the Director for the Highland Park GEAR UP project. As Director, the researcher is responsible for program planning and grant maintenance in accordance with federal guidelines, in addition to planning, directing and managing the grant budget. Additionally, the researcher is responsible for preparing the grant's Annual Performance Report for US Department of Education, as well as for supervising and evaluating the Highland Park GEAR UP Site Coordinator and staff, and serving as liaison between the school district (Topeka Public Schools), grant partners, and the University of Kansas, which serves as the fiscal agent for this grant.

As Director, the researcher does not participate in the day-to-day onsite activities, as the Site Coordinator runs the site. Also, the Achievement and Assessment Institute's Data and Evaluation Team handle all data and program evaluation, in order to maintain the integrity of all data, and decrease the likelihood of biased interpretation.

Permissions

Through a Memorandum Of Understanding (MOU) and formal data-sharing

agreement executed at the beginning of the grant cycle, Topeka Public Schools provides GEAR UP with student grades, assessment scores, credits earned, and attendance information every quarter.

This data will be used to measure the Freshman Year Performance Indicators indicated below:

Grade Point Average (GPA): reported as a continuous variable (0 - 4.0)

Credits earned: reported as a continuous variable (0 – 6.5)

Number of class period absences: reported as a continuous variable (.0 - 1440)

Data

The data collected for this study included student-level data on 9th grade student participation in GEAR UP activities. GEAR UP uses a data portal, known as SCRIBE, to track student-level data. SCRIBE is a FERPA-compliant, web-based data portal. Each GEAR UP student is listed in the database, along with a unique identifier (in this case, student identification number), date of birth, activity participation information, and additional information relative to his/her progress toward graduation.

Each time GEAR UP sponsors an event, activity or intervention, participant attendance is entered into the database. The information contained in this database is used to provide documentation, in the form of Annual and Biennial Performance Reports, to the US Department of Education. This data serves as evidence that GEAR UP is carrying out the federally mandated activities associated with the grant award, as well as to track student progress.

GEAR UP provides numerous activities throughout the course of the school year, including but not limited to academic interventions, college related information and trips, and non-cognitive skill development. For the purposes of this study, these various activities

will be organized and categorized as follows, utilizing the categories developed by the US Department of Education in the GEAR UP Annual Performance Report (APR):

- Counseling Services
 - One on one counseling/mentoring
 - Small/Large group counseling/mentoring
 - Motivational speakers
 - Leadership development activities
- Educational & Cultural Events
 - Theater/Arts performances
 - Museums/Art gallery experiences
- Tutoring Services
 - After school Academy
 - Academic Day Tutoring Program
- College/Career Exposure
 - College Knowledge activities (College of the Week)
 - Campus Visits
 - Job shadowing experiences
 - Career Fairs
- Rigorous Academic Curriculum
 - Classroom supports for teachers wishing to implement rigorous academics
- Summer Experiences
 - Summer camps

- Summer Credit Recovery
- Summer Leadership Conferences

Participation Hours are reported as interval data (actual number of hours of Freshman Year activities per student).

Variables

Outcome variables. The following outcome variables were used in this study:

- Freshman Year Grade Point Average (GPA)
- Number of credits earned during freshman year
- Percentage of class period absences during freshman year

Predictor variables. This study examined the effect of the following predictor variables on the dependent outcome variables:

Hours of GEAR UP Participation (number of hours of Freshman Year activities per student) in each of the following categories:

- Counseling Services
- Educational & Cultural Events
- Tutoring & Support Services
- College/Career Exposure
- Rigorous Academic Curriculum
- Summer Experiences

Controls. The following controls will be implemented:

- **Gender.** For the purpose of this study, gender will be coded as follows:

1 = Male, 2 = Female

- **Race.** For the purpose of this study race will be coded as follows, for the ANOVA

models used to address Research Question #2:

1 = White

2 = African American

3 = Hispanic

4 = Asian/Pacific Islander

5 = Native American

6 = Two or more races

For the regressions models used to address Research Question #4, the race variable was dichotomized as follows:

0 = Non-Minority

1 = Minority

The race variable was dichotomized due to the fact that several of the subgroups were too small to include as individual categories, therefore an aggregate variable capturing minority and non-minority ethnicity status was established.

- **Special Education (SPED) status.** For the purpose of this study, SPED status will be coded as follows:

0 = No

1 = Yes

- **English Language Learner (ELL) status.** For the purpose of this study, ELL status will be coded as follows:

0 = No

1 = Yes

- **Socioeconomic Status.** This variable will not be included in the controls, as the school is classified as 100% Free and Reduced Lunch eligible, which is an accepted proxy for socioeconomic status in education studies.

Data Analysis

Descriptive statistics were run to determine the characteristics of students who participate in Highland Park GEAR UP, what is their level of participation and their Freshman Year Indicators. A correlation and multiple one-way ANOVAs were run to determine which categories of activities are most significantly related to academic achievement, and to determine relationships between GEAR UP participation and race and gender. Finally, multiple regression models were established to answer Research Question #4. In each model, the regression was run to determine what level of GEAR UP participation has the most impact on our three outcome variables (GPA, credits earned, and attendance), and what categories of activities have the most impact. The models consisted of linear regression on participation levels in each of the six predictor variable categories and GPA, credits earned, and attendance. All models controlled for gender, race, SPED and ELL status.

Limitations

There are several limitations to this study that must be considered when interpreting the results. First, the study utilized a relatively small sample size. The sample was drawn from one high school located in a small-sized urban community. Due to the limited scope of the sample, there are limitations to the study's external validity that warrant caution when generalizing the findings to other GEAR UP programs.

Second, the issue of selection bias must be considered. Selection bias occurs when the study sample is not representative of the overall target population (Alexander, Lopes,

Ricchetti-Masterson & Yeatts, 2015). GEAR UP services were offered to all 9th grade students at the participating high school. However, because many services are offered through a voluntary approach, it is possible that primarily highly motivated students were opting to participate.

Third, there are several variables that have been identified within the research literature as key indicators of academic success (e.g., motivation, non-cognitive factors, college knowledge, etc.). However, this study relied on retrospective existent academic data that was readily available from the participating school district. As such, results should be interpreted with caution, as it is possible that GEAR UP services may have a greater impact on non- academic variables that were not included in this study.

Chapter 4

Results

Based on the review of literature provided above, four main research questions guided this study. Research question #1 addressed the characteristics of students who participate in GEAR UP in Topeka, their level of participation, and their high school Freshman Year Performance Indicators. Research question #2 addressed the demographic differences in levels of participation among the participants. Research question #3 addressed which GEAR UP activities are significantly related to academic achievement. Finally, research question #4 addressed how level and type of GEAR UP participation predict student achievement, as measured by the Freshman Year Performance Indicators, while controlling for student-level demographics. Prior to conducting analyses all variables were checked for accuracy. Minimum and maximum values for each variable were checked to ensure all variables had values within realistic ranges.

Research Question #1 asked: Who are the students who participate in GEAR UP in Topeka and what is their level of participation and their Freshman Year Performance Indicators? The sample consisted of 200 participants, with 51% being female (n=103) and 49% being male (n=97). Approximately 45% of the participants self-report as Hispanic, and the remaining participants are distributed as follows: African American (23%), White (20%), Two or more races (11%) and Native American (1%). There are no students who self-identify as Asian/Pacific Islander in the sample. Additionally, 22.5% of the participants (n = 45) are classified as receiving special education services, and 25% of the participants (n = 50) are classified as English Language Learners (ELL).

The participants have an average GPA of 2.15 on a 4.0 scale, have earned an average of six credits out of a required 6.5 credits during freshman year and have missed an average of thirty-eight class periods, or 4.75 school days, during their

freshman year. Table 1 provides an overview of the demographic composition of the study's sample.

Table 1
Descriptive statistics for the study sample.

Variable	N	Percentage	M	Median	SD	Range
Gender						
Male	97	48%				
Female	103	52%				
Race/Ethnicity						
White	41	21%				
African American	46	23%				
Hispanic	90	45%				
Two+ races	21	11%				
Native American	2	1%				
SPED Status						
Yes	45	22%				
No	155	78%				
ELL Status						
Yes	50	25%				
No	150	75%				
GPA	200		2.15	2.07	1.05	0.0-4.0
Class Period			38	17.5	49.6	0-285
Absences						
Credits Earned			6	6.75	1.69	0-9.25
Total Participants	200					

GEAR UP activities are broken into six service categories, based upon the required reporting categories established by the United States Department of Education for the GEAR UP Annual Performance Report. These six categories are as follows:

1. Tutoring Services: consist of academic day and afterschool tutoring. GEAR UP Topeka employs in-class tutors to assist students during the academic day, in addition to Highland Park Academy, which is the afterschool tutoring program that meets four days per week, for two hours after school.
2. Rigorous Academics: are programs initiated or sponsored by GEAR UP Topeka, which promote higher-level thinking and rigorous curricular activities. Examples of GEAR UP Topeka-initiated activities include DNA Day, where post-doctoral scientists visit

classrooms to conduct experiments and promote interest in STEM, and the Write Now!

Takeover, where professional authors “take over” English classes for a day and engage students in higher-level literacy activities.

3. Counseling Services: consist of individual and group counseling and mentoring activities, which include one-on-one advising, mentoring workshops, motivational speakers and experiences, relationship building, and leadership development.
4. College & Career Exploration: are activities designed to familiarize students with “College & Career Knowledge,” including campus visits, financial aid presentations, college research activities, job shadowing experiences, and career research and presentations.
5. Educational & Cultural Experiences: activities that improve students’ cultural capital, such as museum visits, theater & arts performances, and sporting events.
6. Summer Experiences: are activities, camps, workshops and trips that take place during the summer.

In order to track participation hours in GEAR UP services, attendance is tracked per event or service offered. The FERPA-compliant data portal used by Highland Park GEAR UP houses all participation data, and reports on participation in each event, by individual student. Activities are tracked by the number of hours per event, and reports indicate aggregate participation hours per activity, per student and per service category. The n-statistic represents the number of students with logged activity in each service category during the 2016-2017 school year, which represents the 9th grade school year and subsequent summer (August-July). In the sample, Counseling Services is the most utilized service (n=197), followed by College & Career Exploration (n=196), Rigorous Academics (n=195), Tutoring Services (n=133), Summer Experiences (n=115) and finally Educational & Cultural

Experiences (n=20). Average participation rates for each service category can be found in Table 2.

Table 2

Average Freshman Year Participation Hours in GEAR UP Service Categories

Service Categories	N	M	Median	Range
Tutoring Services	133	30	5.25	.30 – 189
Rigorous Academics	195	2	2.4	.90 – 16
Counseling Services	197	9	6.75	.30 – 29.5
College & Career Expl	196	5	3.0	.50 – 30.5
Cultural Experiences	20	.2	.00	2 – 2.3
Summer Experiences	115	14	2.0	.25 – 82

Since this study focuses on GEAR UP participation and Freshman Year Performance Indicators (FYPI), a discussion of participant FYPI indicators follows. For the first indicator, freshman year grade point average (GPA), Highland Park GEAR UP participants who self-report as “Two or more races” have the highest average GPA (2.28), followed by African American students (2.18), White students (2.12), Hispanic students (2.11) and finally Native American students (1.75). The differences in average GPA are not statistically significant. Female students have higher average GPA than male students (2.39 vs. 1.90) and this difference is significant at $p = .001$. The overall class GPA is 2.15 (Table 3).

With regard to the second indicator, number of freshman year class period absences, Highland Park GEAR UP Hispanic students have the highest number of class period absences ($M = 43.14$), followed by African American students ($M = 36.2$), White students ($M = 34.09$), “Two or more races” ($M = 27.4$), and Native American students ($M = 18.0$). Female students have a higher number of freshman year class period absences than males ($M = 38.73$ vs. $M = 36.80$). These differences in class period absences are not statistically significant. The overall class average is thirty-eight class periods missed (Table 3).

For the third indicator, Highland Park GEAR UP Native American students have the highest number of credits earned ($M = 6.5$), followed by “Two + races” ($M = 6.4$), African American students ($M = 6.2$), White students ($M = 6.03$) and Hispanic students ($M = 6.00$). Females have a higher number of freshman year credits earned than males ($M = 6.3$ vs. $M = 5.9$). These differences are not statistically significant. The overall class average is six credits earned during the freshman year (Table 3).

Table 3

Freshman Year Performance Indicators by Gender & Race.

Variable	N	GPA	SD	Absences (M)	SD	Credits Earned (M)	SD
White	41	2.13	1.03	34.09	47.33	6.03	1.76
African American	46	2.18	1.07	36.22	48.02	6.24	1.58
Hispanic	90	2.12	1.08	43.14	54.34	6	1.86
Native American	2	1.75	.35	18.0	2.83	6.5	1.06
Two + Races	21	2.28	.98	27.43	36.55	6.43	.99
Total	200	2.15	1.05	37.79	49.58	6.11	1.69
F		.192		.635		.388	
P		.942		.638		.817	
Gender							
Male	97	1.90	.92	36.80	51.95	5.9	1.77
Female	103	2.39	1.10	38.73	47.48	6.3	1.61
Total	200	2.15		37.79		6.11	
t		11.515		.075		2.317	
p		.001**		.785		.130	

* $p < .05$; ** $p < .001$

Research Question #2 asked: Are there demographic differences in participation of Highland Park GEAR UP participants?

Descriptive statistics indicate significant differences in the levels of participation among the student cohort. Table 4 provides a breakdown of the differences in GEAR UP participation by student level characteristics (i.e., race/ethnicity, gender). In total, GEAR UP offered 10,178 hours of service during the 2016-2017 academic year. This number includes both academic day and afterschool programming, in addition to weekend and summer experiences. White students, although making up only 20.5% ($n = 41$) of the participant group,

have the most participation hours, with an average of 78.8 hours of total participation in GEAR UP services. African American students ($n = 46$) represent the second largest number of participation hours at 70.3, followed by students who self report as Two or more races ($n = 21$) ($M = 66.9$), Native American students ($n = 2$) ($M = 55.32$), and finally Hispanic students ($n = 90$) ($M = 45.34$). Additionally, female students ($n = 103$) participated in Highland Park GEAR UP activities at a higher rate ($M = 64.14$) than males ($n = 97$) ($M = 56.25$). Differences in participation hours are significantly different by race/ethnicity ($p = .039$) but are not significant by gender ($p > .05$).

Table 4

Participation Averages Hours by Gender & Race.

Variables	N	M	F	p
Gender			.780	.378
Male	97	56.25		
Female	103	64.14		
Race/Ethnicity			2.577	.039*
White	41	78.81		
African American	46	70.32		
Hispanic	90	45.34		
Two or more races	21	66.96		
Native American	2	55.32		
Total number of participants	200			

* $p < .05$; ** $p < .001$

Table 5 shows a breakdown of average participation hours by service category, race, and gender. White students have the most participation hours in tutoring services ($M = 44.7$), followed by African American students ($M = 36.9$), “Two or more races” (36.8), Hispanic (18.7) and Native American students (12.62). These differences are significant at $p = .004$. Differences in participation hours by race/ethnicity for the remaining service categories (rigorous academics, counseling services, college & career experiences, educational & cultural experiences, summer experiences) were not found to be significant.

Female students participated in summer experiences more than males ($M = 18.32$ vs. $M = 9.66$), a difference which is significant at $p = .019$. Female students also participated in Counseling Services more than male students ($M = 9.4$ vs. $M = 7.84$), a difference which is significant at $p = .044$. There were no differences of statistical significance for the rest of the service categories and gender.

Table 5

Average participation hours by service category, race, ELL & SPED status

Variable	N	Tut M	Tut SD	RigA M	RigA SD	CS M	CS SD	C&C M	C&C SD	CE M	CE SD	SE M	SE SD
Gender													
Male	97	29.2	42	2.3	1.8	7.84	4.2	6.44	30.8	.21	.63	9.6	23.3
Female	103	30.9	1.2	2.2	1.2	9.4	6.4	3.58	2.3	.20	.61	18.3	28.1
Total	200	30.0	40	2.2	1.5	8.64	5.5	4.96	21.5	.20	.62	14.1	26.2
<i>p</i>		.767		.633		.044*		.347		.861		.019*	
Race													
White	41	44.7	40	2.4	2.4	8.8	5.6	10.1	47.2	.15	.56	13.0	26.8
AfAm	46	36.9	39	2.4	1.1	8.5	4.5	3.4	2.3	.22	.63	19.0	27.9
Hisp	90	18.7	38	2.2	1.3	8.5	5.5	3.9	3.2	.18	.58	11.7	24.8
Two+	21	36.8	42	1.8	1.1	9.2	7.1	3.0	1.9	.40	.84	14.4	27.1
NatAm	2	12.6	10	1.6	1.1	10.4	5.9	2.5	1.4	.00	.62	28.1	39.4
<i>p</i>		.004*		.555		.964		.558		.620		.964	
ELL	50	8.86	31	1.92	1.2	7.32	4.01	3.27	2.19	.25	.67	6.57	19.8
<i>p</i>		.000**		.114		.049*		.421		.584		.018*	
SPED	45	28.1	40	2.12	.71	7.32	2.0	9.50	45.1	.32	.75	8.2	23.2
<i>p</i>		.715		.646		.065		.108		.162		.085	

* $p < .05$; ** $p < .001$

Research question #3 asked: What GEAR UP service categories, as measured by

hours of participation per category, are significantly related to freshman year academic achievement, as measured by the Freshman Year Performance Indicators?

The next statistical analysis run was a correlation, looking for significant relationships between number of participation hours in each of the six service areas (i.e., tutoring services, rigorous academics, counseling services, college & career exploration, educational & cultural experiences, summer experiences), and GPA. A significant correlation was found to exist between GPA and Counseling Services participation ($r = .459$; $p = .0001$), as well as between number of 9th grade class period absences and Counseling Services participation ($r = -.255$; $p = .000$), and number of 9th grade credits earned and Counseling Services participation ($r = .331$; $p = .000$). This result suggests that the more counseling/mentoring services in which a student participated, the higher the student's GPA, the greater number of freshman year credits earned, and the lower the number of class periods the student misses. Additionally, a significant relationship exists between participation in Summer Experiences and GPA ($r = .294$; $p = .000$), as well as the number of 9th grade credits earned and Summer Experiences ($r = .204$; $p = .004$). This result suggests the more summer experiences in which a student participates, the higher the student's GPA and the greater the number of freshman year credits earned.

Significant correlations were also discovered between GPA and Total Hours of Participation ($r = .177$; $p = .012$), suggesting the more hours a student participated in GEAR UP services, the higher their GPA. A significant relationship was also found to exist between Total Hours of GEAR UP Participation and number of freshman year credits earned ($r = .169$; $p = .017$), as well as between the Total Hours of GEAR UP participation and number of freshman year class period absences ($r = -.143$; $p = .044$). These findings indicate high levels

GEAR UP participation are related to a greater number of credits earned and a lower number of class period absences during the freshman year. No significant relationships were found for the other variables tested.

These correlations demonstrate that certain components of GEAR UP participation are statistically significantly related to the Freshman Year Performance Indicators during the first year of high school. For a full description all variables and correlations, see Appendix A.

Research Question #4 asked: What is the relationship between student-level demographics and level and type of GEAR UP participation predict student achievement, as measured by Freshman Year Performance Indicators?

Three multiple linear regression models were run for each of the three dependent variables (i.e., GPA, number of credits earned and number of class period absences). The purpose of each regression model was to determine which of the GEAR UP service categories were predictive of each of the key Freshman Year Indicators. Further, the models examined whether or not total participation in GEAR UP services was predictive of the key indicators.

The first model examined the predictive validity of the six Highland Park GEAR UP service categories on freshman year GPA. This model explained 28% of the GPA variance ($R^2 = 0.28$, $F(10,189) = 7.398$, $p = .000$). As can be seen in Table 6, after controlling for all GEAR UP variables, freshman year GPA was significantly related to hours spent in Counseling Services. There is also a significant relationship between GPA and gender, as well as GPA and ELL status. Table 6 provides an overview of the regression coefficients for each of the variables in this model. The results indicate that greater participation in

Counseling Services predicts a higher freshman year GPA, being female predicts having a higher freshman year GPA, and being an English Language Learner is negatively related to GPA.

Table 6

Parameter estimates of GEAR UP services on Freshman Year GPA.

Variables	B	B	SE	p
Tutoring Services	-.052	-.001	.002	.456
Rigorous Academics	.010	.007	.043	.870
Counseling Services	.375	.072	.014	.000**
College & Career	.030	.001	.003	.643
Cultural Experiences	-.023	-.039	.108	.721
Summer Experiences	.049	.002	.003	.532
Gender	.134	.280	.135	.039*
Race/Ethnicity	.041	.106	.170	.533
SPED status	-.127	-.318	.162	.052
ELL status	-.170	-.411	.164	.013*

* $p < .05$; ** $p < .001$

The second model examined the predictive validity of the six Highland Park GEAR UP service categories on the number of class period absences. This model explained 13% of the absence variance ($R^2 = .127$, $F(10, 189) = 2.750$, $p = .003$). As can be seen in Table 7, after controlling for race, gender, SPED and ELL status, the number of class period absences was significantly related to Counseling Services. A significant relationship was also found to exist between ELL status and Class Period Absences. Table 7 provides an overview of the regression coefficients for each of the variables in this model. The results indicate an inverse relationship, suggesting greater participation in Counseling Services predicts a decrease in class period absences, and that students identified as ELL had more Class Period Absences.

Table 7

Parameter estimates of GEAR UP services on Class Period Absences.

Variables	B	B	SE	p
Tutoring Services	-.014	-.017	.096	.860

Rigorous Academics	.064	2.101	2.267	.355
Counseling Services	-.272	-2.465	.732	.001**
College & Career	-.079	-.182	.164	.268
Cultural Experiences	-.120	-9.649	5.642	.089
Summer Experiences	.064	.120	.163	.460
Gender	.082	8.070	7.043	.253
Race/Ethnicity	-.022	-2.730	8.864	.758
SPED status	.111	13.176	8.465	.121
ELL status	.188	21.428	8.565	.013*

* $p < .05$; ** $p < .001$

The third regression model examined the predictive validity of the six Highland Park GEAR UP service categories on the number of freshman year credits earned. This model explained 15% of the variance for credits earned ($R^2 = .150$, $F(10, 189) = 3.327$, $p = .001$). As can be seen in Table 8, after controlling for race, gender, SPED and ELL status, the number of freshman year credits earned was also significantly related to Counseling Services. Table 8 provides an overview of the regression coefficients for each of the variables in this model. The results suggest students with greater Counseling Services participation earned more freshman year credits, irrespective of race, gender, SPED and ELL status.

Table 8

Parameter estimates of GEAR UP services on number of freshman year credits earned.

Variables	B	B	SE	P
Tutoring Services	.049	.002	.003	.521
Rigorous Academics	-.049	-.055	.076	.473
Counseling Services	.310	.096	.025	.000**
College & Career	-.004	.000	.006	.957
Cultural Experiences	.096	.265	.190	.166
Summer Experiences	.007	.000	.005	.934
Gender	.038	.128	.237	.590
Race/Ethnicity	.065	.272	.299	.363
SPED status	-.039	-.158	.285	.581
ELL status	-.140	-.546	.289	.060

* $p < .05$; ** $p < .001$

Summary

Descriptive Statistics. A total of 200 students were included in the study sample. Results show the students who participate in Highland Park GEAR UP are primarily female ($n = 103$), and primarily Hispanic (46%). During their freshman year of high school, participants had an average GPA of 2.15, earned an average of 6 out of 6.5 required credits and have missed an average of 4.75 school days. All 200 students in the sample have participated in at least one GEAR UP service activity, with Tutoring Services hours garnering the most participation hours.

Demographic Differences in Participation. Students who self-identify as “Two or more races” and females had the highest average GPA ($M = 2.28$; $M = 2.39$). Statistically significant differences in GPA and race exist at $p = .001$. Hispanic students have the highest number of class period absences ($M = 43.14$), and Native American students have the highest number of credits earned during the freshman year of high school ($M = 6.5$). White and female students have the most GEAR UP participation hours ($M = 78.81$; $M = 64.14$). Differences in participation hours by race is significant at $p = .039$. Additionally, of the six services categories, Tutoring Services generated the most participation hours ($M = 30.0$). Statistically significant differences exist in Tutoring Services participation and race ($p = .004$), as well as in Counseling Services participation and gender ($p = .044$) and Summer Experiences participation and gender ($p = .019$).

Correlation. Correlation analyses indicate a significant relationship between participation in Counseling Services and GPA ($p = .0001$) number of class period absences ($p = .000$) and number of credits earned during the 9th grade year ($p = .000$). Students with more hours of participation in Counseling Services had a higher GPA, higher number of freshman

year credits earned and lower number of class period absences. A significant relationship was also found to exist between participation in Summer Experiences and GPA ($p = .000$) and number of 9th grade credit earned ($p = .004$). Students with more summer participation hours have a higher GPA and number of 9th grade credits earned. Finally, a significant correlation exists between Total Hours of GEAR UP participation and number of 9th grade credits earned ($p = .017$), while a significant negative correlation exists between Total Hours of GEAR UP Participation and number of class periods missed in the 9th grade ($p = .044$). Students with higher Total Hours of GEAR UP participation have a higher GPA and number of 9th grade credits earned, and a lower number of class period absences.

Linear Regression. There was statistical support for the claim that GEAR UP participation, in specific categories, influences the high school Freshman Year Performance Indicators (GPA, absences & credits earned). Counseling Services was the only service categories that produced a significant relationship with all of the high school Freshman Year Performance Indicators: Counseling Services and GPA ($p = .000$), Counseling Services and class period absences ($p = .001$), and Counseling Services and credits earned ($p = .000$). There was also a significant relationship between ELL status and Class Period Absences, ELL status and GPA, and gender and GPA. These findings indicate potential areas of growth for Highland Park GEAR UP and other GEAR UP programs nationally, in terms of budget allocations among the service categories. These will be discussed in Chapter 5.

Chapter 5

Discussion

The purpose of this study was to examine the relationship between GEAR UP participation and key academic indicators in the freshman year of high school at one high school in Topeka, Kansas. GEAR UP is a federally funded, pre-college grant program charged with preparing at-risk, low socioeconomic status (SES), potential first-generation college student cohorts for the successful pursuit of postsecondary education (USDE, 2015). Research has shown that the impact of low SES and first-generation status on academic achievement, college enrollment and persistence through to graduation is significant. This population of students has been found to be less academically prepared, less likely to enroll in college right after high school, more likely to require remedial coursework, and more likely to leave college after the first year (Engle, 2007; Engle & Tinto, 2008; Strayhorn, 2009; Warburton, et al., 2001).

To guide this study, an extensive review of the research literature on 9th grade performance indicators was conducted. The review produced three key freshman year indicators (GPA, number of credits earned, and percentage of class period absences) as highly predictive of future academic outcomes within high school (Geiser & Santelices, 2007; Heppen & Therriault, 2008; Hodara & Lewis, 2017). For example, the Freshman Year Performance Indicators have been indicated as predictive of on track/on time high school graduation with 80% reliability (Allensworth & Easton, 2005; Allensworth & Easton, 2007, Heppen & Therriault, 2008). High school grade point average has been shown to be a better predictor of college course grades than any of the standardized college placement tests (e.g. ACT, SAT, Accuplacer), and number of freshman year absences has been shown to be one of

the biggest predictors of high school dropouts. (Balfanz, et al., 2015; Neild & Balfanz, 2006). For these reasons, and based upon the findings of the Consortium on Chicago School Research (2007), this study utilizes the Freshman Year Performance Indicators as a proxy for on-track/on-time high school graduation.

This chapter summarizes the results of this study and provides insight into how the GEAR UP Topeka program activities relate to the academic status of the participant's within the sample.

Summary of Findings

The study was designed to analyze the relationship between students' level and type of participation in GEAR UP services, as measured by the number of hours and by the type of activity, to the Freshman Year Performance Indicators of those students. The participants were 200 9th grade students at Highland Park High School in Topeka, Kansas, where the Highland Park GEAR UP program is administered. Using participation and performance indicator data, correlation, *t*-test, one-way ANOVA and linear regression analyses were used to answer the four research questions.

The first research question explored who participated in GEAR UP programming at Highland Park High School, their level of participation and their Freshman Year Performance Indicators. Of the 200-participant sample, 51% were female and 49% were male. The population was primarily Hispanic (46%), approximately 25% of the students were English Language Learners, and 25% of the students were classified as qualifying for special education services. This overall demographic trend of the study's participants closely mirrored the demographic composition of the target high school, but the district as a whole is primarily male (51%), and primarily White (38%) (KSDE, 2017). Although the sample population attends a high school considered low-performing, the freshman year GPA was

higher than expected ($M = 2.15$ on a 4.0 scale). The average number of credits earned and number of class periods missed were also not what was anticipated. Perhaps since GEAR UP has been a part of these students' lives for two years, these students were, on average, better prepared for 9th grade than anticipated.

Part of the GEAR UP slate of activities offered to participants during their 8th grade year was a high school preparation component, which included a High School 101 series designed to familiarize students with the language of high school (GPA, credits, transcripts, etc.) and the increased accountability high school requires. GEAR UP staff spent a considerable amount of time and energy during the previous 2015-16 academic year preparing the 8th grade classes for a successful high school transition, and perhaps this preparation work accounted for the fact that, on average, the study sample of freshman had decent grades ("C" average), were passing most of their classes and came to school most of the time. This average GPA, while still relatively low, was a notable success for the sample, as the Consortium on Chicago School Research indicate almost 70% of students in the bottom two quartiles for income have an average GPA equivalent to a "D" or less during the freshman year (Easton, Johnson, & Sartain, 2017). Studies have shown that freshmen with A's, B's and C's are more likely to graduate high school on time than peers with lower GPAs (Easton et. al., 2017), so it appears that, on average, Highland Park GEAR UP freshman are thus far considered to be "on-track" for high school graduation.

In regard to the sample's Freshman Year Performance Indicators, the study examined the relationship between race and gender and GPA, number of class period absences and number of credits earned. The study found a statistically significant difference in average GPA between females ($M=2.39$) and males ($M=1.90$). These results are consistent with previous

research, as Easton and colleagues (2017) found male students, on average, have lower GPAs than female students. No statistically significant differences exist for average GPA and race, number of class period absences and race/gender, or number of credits earned and race/gender. This result is surprising, as African-American students, on average, tend to have lower GPAs than other racial/ethnic groups (Easton et. al., 2017). Highland Park GEAR UP African American students have an average GPA of 2.18, which is an indicator of being “on-track” for four-year high school graduation. Once again, perhaps this is related to the fact that these students have participated in GEAR UP for two previous years.

The second research question explored demographic differences in participation for the sample. Results indicate statistically significant differences in participation by race/ethnicity, with White students having the most participation hours ($M = 78.8$), particularly in Tutoring Services. This is surprising, as White students represent only 20% of the sample ($N=41$). Since there are more Hispanic students in the GEAR UP program, it was assumed that Hispanic students would have the most participation hours. However, since much of GEAR UP Topeka Tutoring Services take place during the academic day, through the Academic Day Tutoring program, and Hispanic students, on average, have the highest number of class period absences ($M = 36.2$), it is likely that the Hispanic students did not have the most Tutoring Services participation hours because their attendance in class was lower.

Additionally, female students were found to have more participation hours in Summer Experiences and Counseling Services than males. Since the Highland Park GEAR UP male population is smaller, the Summer Experiences disparity is not surprising. Neither is the disparity in Counseling Services participation. According to the American

Psychological Association, studies and surveys indicate men of all ages and ethnicities are less likely than women to seek help for their problems--including depression, substance abuse and stressful life events--even though they encounter those problems at the same or greater rates as women (Winerman, 2005). It is likely that the same applies for academic and personal Counseling Services through Highland Park GEAR UP. Since participation in GEAR UP Counseling Services is voluntary, it follows that males are less inclined to seek out assistance than females, which may explain why males tend to be on the lower end of most Highland Park GEAR UP service participants.

The third research question explored which GEAR UP service categories are significantly related to the Freshman Year Performance Indicators. Results indicate a statistically significant correlation between all three of our Freshman Year Performance Indicators (GPA, number of credits earned, and number of class period absences) and Counseling Services participation. These results suggest that increased participation in Counseling Services leads to higher student GPA, greater number of credits earned and lower number of class periods missed. These findings are not surprising, as Highland Park GEAR UP Counseling Services consist of leadership training, motivation, grit and resilience support, and personal, one-on-one advising. Through these activities, students are able to examine their strengths and weaknesses, develop strong leadership skills, and develop personal relationships with GEAR UP staff and partners, all of whom are committed to the success of the student population.

In a study by the Center on Education Policy, researchers found programs that simply encourage students to attend college have had limited success, but the most positive results come from programs that helped students understand what they needed to do to get into college

and provided them with counseling, academic support, and other services to enable them to succeed at each step (Usher & Kober, 2012). Since Highland Park GEAR UP services are designed to support students both personally and academically, perhaps this accounts for the correlation between Counseling Services and the Freshman Year Performance Indicators.

Significant correlations were also found to exist between Summer Experiences participation, GPA and number of credits earned, suggesting the more Summer Experiences participation, the higher the student GPA and the greater number of freshman year credits earned. Highland Park GEAR UP Summer Experiences are all about motivation and engagement. One of the grant partners, CoolSpeak, is a youth engagement company that specializes in providing experiences for students to find their voice, explore leadership and embrace engagement. Highland Park GEAR UP employs CoolSpeak for a variety of motivational experiences, including a weeklong residential summer camp. CoolSpeak brings the same staff counselors to camp every summer, and students develop deep, trusting relationships with the staff, who remain engaged with the students throughout the year, through social media. This relationship building is intentional, as the CoolSpeak staff can serve as off-site mentors for the Highland Park GEAR UP students. Additionally, students who attend summer camp are required to qualify through grades, behavior and attendance. Students are excited to attend summer camp each year, and for this reason, tend to keep their grades and attendance up in order to qualify for summer camp participation.

Finally, a significant correlation exists between Total Hours of GEAR UP Participation and all three of the Freshman Year Performance Indicators. These findings suggest higher levels of GEAR UP participation are related to higher GPA, greater number of credits earned, and lower number of class period absences. The results support the

hypothesis that GEAR UP participation is significantly related to academic success, as measured by the Freshman Year Performance Indicators.

The final research question explored the relationship between student level demographics and level and type of GEAR UP participation. There was statistical support for the claim that GEAR UP participation in specific categories of activities influences the high school Freshman Year Performance Indicators (GPA, absences & credits earned). Of the six GEAR UP service categories (Tutoring, College & Career, Rigorous Academic Experiences, Educational & Cultural Experiences, Counseling services and Summer Experiences), Counseling Services was the only service category that produced a statistically significant relationship with all of the high school Freshman Year Performance Indicators. As discussed earlier, GEAR UP Topeka's Counseling Services addresses the non-cognitive skills that are so important for building resilience and grit (Bangser, 2008; Villar, 2004). Additionally, the personal relationships developed between GEAR UP staff and students help to develop trust, which is of vital importance in this work. Students must trust that we care, and trust that we have their best interests at heart. Once that trust is developed, students will allow us to lead them.

General Discussion

The results of this study indicate a significant relationship between the Freshman Year Performance Indicators and the Counseling Services provided by GEAR UP Topeka. As Director of this program, I was very intentional in setting up services to not only comply with the US Department of Education guidelines, but also to correspond with current research and what I believe students need to be successful. My own interest and experience in professional development and training regarding Trauma Informed Care, Culturally Relevant and

Responsive Teaching, and Mental Health First Aid have provided me with a foundational belief in serving the “whole child.” For that reason, my staff serve as mentors, friends, confidantes and counselors to our student cohort. We work hard to establish trust and provide consistency, which is often lacking in many of our students’ personal lives. Our students have come to rely on us for guidance, and we provide to the best of our ability. This intense and personalized approach to Counseling Services might account for why the results indicate significant findings in this area.

Much of the research on pre-college programs like GEAR UP indicate primary success in the areas of personal growth, non-cognitive characteristics, academic engagement and personal responsibility (Knaggs, et al., 2015; Villar, 2014), all of which are areas of focus for the Highland Park GEAR UP Counseling Services slate of activities. This particular GEAR UP program subscribes to the theory that students don’t care how much you know until they know how much you care (Maxwell, 2001), and the Counseling Services activities offered buttress that belief by focusing on student self-esteem, intrinsic motivation, grit and resilience.

What the results did not find was a significant relationship between Tutoring Services programming and the Freshman Year Performance Indicators. When the results of the present study are situated within the larger research context, these finding are not surprising. Previous research has found only modest statistically significant impact for pre-college programs’ effect on students’ academic achievement (e.g., Coleman, 2011; Gullat & Jan, 2003; Haskins & Rouse, 2013). Despite the limited statistical support, researchers have argued this lack of direct academic impact is less a function of the shortcomings of these pre-college programs and more a function of the social and educational inequities endemic to high poverty schools and districts (Bloom, 2008; Dyce, et. al., 2013). In spite of

this research, I had hope that a relationship would be discovered in this area, as my program expends considerable financial resources in this area, but while teachers and students anecdotally report gains, they are not found to be significant in this study.

Contributions to Practice

These results provide areas of potential growth and direction for GEAR UP Programs. Based upon what I have learned about the relationship between Counseling Services and academic achievement for Highland Park GEAR UP participants, I plan to increase my program's Counseling Services offerings. By incorporating the use of additional mentors and mentoring opportunities, my hope is to increase opportunities for 1-1 mentoring. Additionally, I will reach out to the community in the hope of setting up a situation in the vein of "Big Brothers/Big Sisters." We have recently developed a relationship with Zeta Phi Beta Sorority, Inc. These college women are serving as mentors for our current female students, and I hope to find a similar situation for our current male students. These types of partnerships help to provide free resources for our students, which help to save money. Although not found to be statistically significant in relation to freshman year academic gains, the Tutoring Services GEAR UP Topeka provides are popular among the student body and administration, so cutting back on these services is not an option. Therefore, finding creative ways to increase the Counseling Services slate of activities is vital. Through providing additional Counseling Services options, I hope to be able to provide more advocates and cheerleaders for our students.

In addition to these local implications, this study also has implications on a national level. All GEAR UP programs operate in a capacity that best fits their respective populations, but knowing that Counseling Services are significantly related to academic success may influence

some programs to expend more time and energy in that area. Building non-cognitive skills among the student population can go along way toward ensuring on-track and on-time high school graduation and subsequent college enrollment. Highland Park GEAR UP utilizes activities like one-on-one counseling, mentoring workshops, partnerships with motivational speakers, class meetings, leadership training and academic conferencing to increase motivation among the student population. In participant interviews, students have reported participation in GEAR UP as being vital to their success in high school (GEAR UP Works for Highland Park, 2017; Knaggs, et. al., 2015). Highland Park GEAR UP staff members are intimately involved in participants' lives and are looked upon as additional counselors, mentors, and advisors. Based upon the results of this study, GEAR UP programs throughout the nation can benefit from providing more intensive counseling and advising that can serve to influence student motivation, grit and resilience in the direction of postsecondary pursuits.

Future Research

In light of the current study's limitations, there are several questions that future research should address. Future research could incorporate additional non-academic variables, such as non-cognitive factors, motivation, grit scales, etc., into their model to explore the impact of GEAR UP services on non-cognitive development. Additionally, to address and account for issues around selection bias, future research should attempt to incorporate randomization or quasi-experimental design methods.

Additional questions exist surrounding GEAR UP's relationship with academic achievement. As this study focused primarily on the freshman year of high school, perhaps further extrapolation could involve tracking the class throughout high school to see if the impact of Counseling Services remains significant, or if the relationship is specific to the 9th

grade year? Further, does the Counseling Services-Freshman Year Performance Indicators relationship actually lead to on-track/on-time graduation, as the Consortium on Chicago School Research study indicates? Will other GEAR UP Topeka service categories, such as Tutoring Services, show significance in subsequent years? Additionally, what accounts for the lack of significant findings for Tutoring Services in the 9th grade year? Finally, does GEAR UP participation not only relate to high school graduation, but also to subsequent college enrollment? All of these questions can influence future research on GEAR UP programs' impact on the academic status of student participants.

Conclusion

The results from the present study explore GEAR UP's impact on key freshman year indicators. The study design was influenced and supported by previous research that has identified the importance of the freshman year indicators in predicting future high school performance (Allensworth & Easton, 2005; Allensworth & Easton, 2007; Heppen & Therriault, 2008). The findings indicate Highland Park GEAR UP's Counseling Services are key predictors of freshman year academic performance. Given these findings, other GEAR UP professionals are encouraged to emphasize and expand Counseling Service offerings as a vehicle to increase freshman year performance. Strengthening this area of GEAR UP service delivery will help programs get their students on-track and prepared to succeed throughout high school, and into college.

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Appendix A

Correlations

		Grade Point Average	Rigorous Academics
Grade Point Average	Pearson Correlation	1	.087
	Sig. (2-tailed)		.220
	N	200	200
Rigorous academic coursework	Pearson Correlation	.087	1
	Sig. (2-tailed)	.220	
	N	200	200

		Grade Point Average	Counseling Services
Grade Point Average	Pearson Correlation	1	.459**
	Sig. (2-tailed)		.000
	N	200	200
Counseling services	Pearson Correlation	.459**	1
	Sig. (2-tailed)	.000	
	N	200	200

** . Correlation is significant at the 0.01 level (2-tailed).

		Grade Point Average	College & Career Exploration
Grade Point Average	Pearson Correlation	1	.027
	Sig. (2-tailed)		.701
	N	200	200
College & career exploration	Pearson Correlation	.027	1
	Sig. (2-tailed)	.701	
	N	200	200

		Grade Point Average	Educational & Cultural Experiences
Grade Point Average	Pearson Correlation	1	-.076
	Sig. (2-tailed)		.284
	N	200	200
Educational & cultural experiences	Pearson Correlation	-.076	1
	Sig. (2-tailed)	.284	
	N	200	200

		Grade Point Average	Summer Experiences
Grade Point Average	Pearson Correlation	1	.294**
	Sig. (2-tailed)		.000
	N	200	200
Summer experiences	Pearson Correlation	.294**	1
	Sig. (2-tailed)	.000	
	N	200	200

** . Correlation is significant at the 0.01 level (2-tailed).

		Grade Point Average	Total Hours of participation
Grade Point Average	Pearson Correlation	1	.177*
	Sig. (2-tailed)		.012
	N	200	200
Total Hours of participation	Pearson Correlation	.177*	1
	Sig. (2-tailed)	.012	
	N	200	200

*. Correlation is significant at the 0.05 level (2-tailed).

		Total Hours of participation	Number of credits earned
Total Hours of participation	Pearson Correlation	1	.169*
	Sig. (2-tailed)		.017
	N	200	200
Number of credits earned	Pearson Correlation	.169*	1
	Sig. (2-tailed)	.017	
	N	200	200

*. Correlation is significant at the 0.05 level (2-tailed).

		Number of class period absences	Tutoring & support services
Number of class period absences	Pearson Correlation	1	-.089
	Sig. (2-tailed)		.211
	N	200	200
Tutoring & support services	Pearson Correlation	-.089	1
	Sig. (2-tailed)	.211	
	N	200	200

		Number of class period absences	Rigorous Academics
Number of class period absences	Pearson Correlation	1	.004
	Sig. (2-tailed)		.958
	N	200	200
Rigorous academic coursework	Pearson Correlation	.004	1
	Sig. (2-tailed)	.958	
	N	200	200

		Number of class period absences	Counseling Services
Number of class period absences	Pearson Correlation	1	-.255**
	Sig. (2-tailed)		.000
	N	200	200
Counseling services	Pearson Correlation	-.255**	1
	Sig. (2-tailed)	.000	
	N	200	200

** . Correlation is significant at the 0.01 level (2-tailed).

		Number of class period absences	College & Career Exploration
Number of class period absences	Pearson Correlation	1	-.071
	Sig. (2-tailed)		.319
	N	200	200
College & career exploration	Pearson Correlation	-.071	1
	Sig. (2-tailed)	.319	
	N	200	200

		Number of class period absences	Educational & Cultural Experiences
Number of class period absences	Pearson Correlation	1	-.093
	Sig. (2-tailed)		.192
	N	200	200
Education & cultural experiences	Pearson Correlation	-.093	1
	Sig. (2-tailed)	.192	
	N	200	200

		Number of class period absences	Summer Experiences
Number of class period absences	Pearson Correlation	1	-.116
	Sig. (2-tailed)		.103
	N	200	200
Summer experiences	Pearson Correlation	-.116	1
	Sig. (2-tailed)	.103	
	N	200	200

		Number of credits earned	Tutoring & Services
Number of credits earned	Pearson Correlation	1	.114
	Sig. (2-tailed)		.107
	N	200	200
Tutoring & support services	Pearson Correlation	.114	1
	Sig. (2-tailed)	.107	
	N	200	200

		Number of credits earned	Rigorous Academics
Number of credits earned	Pearson Correlation	1	.008
	Sig. (2-tailed)		.915
	N	200	200
Rigorous academic coursework	Pearson Correlation	.008	1
	Sig. (2-tailed)	.915	
	N	200	200

		Number of credits earned	Counseling Services
Number of credits earned	Pearson Correlation	1	.331**
	Sig. (2-tailed)		.000
	N	200	200
Counseling services	Pearson Correlation	.331**	1
	Sig. (2-tailed)	.000	
	N	200	200

**, Correlation is significant at the 0.01 level (2-tailed).

**, Correlation is significant at the 0.01 level (2-tailed).

		Number of credits earned	College & career exploration
Number of credits earned	Pearson Correlation	1	.001
	Sig. (2-tailed)		.994
	N	200	200
College & career exploration	Pearson Correlation	.001	1
	Sig. (2-tailed)	.994	
	N	200	200

		Number of credits earned	Education & cultural experiences
Number of credits earned	Pearson Correlation	1	.081
	Sig. (2-tailed)		.255
	N	200	200
Education & cultural experiences	Pearson Correlation	.081	1
	Sig. (2-tailed)	.255	
	N	200	200

		Number of credits earned	Summer experiences
Number of credits earned	Pearson Correlation	1	.204**
	Sig. (2-tailed)		.004
	N	200	200
Summer experiences	Pearson Correlation	.204**	1
	Sig. (2-tailed)	.004	
	N	200	200

** . Correlation is significant at the 0.01 level (2-tailed).